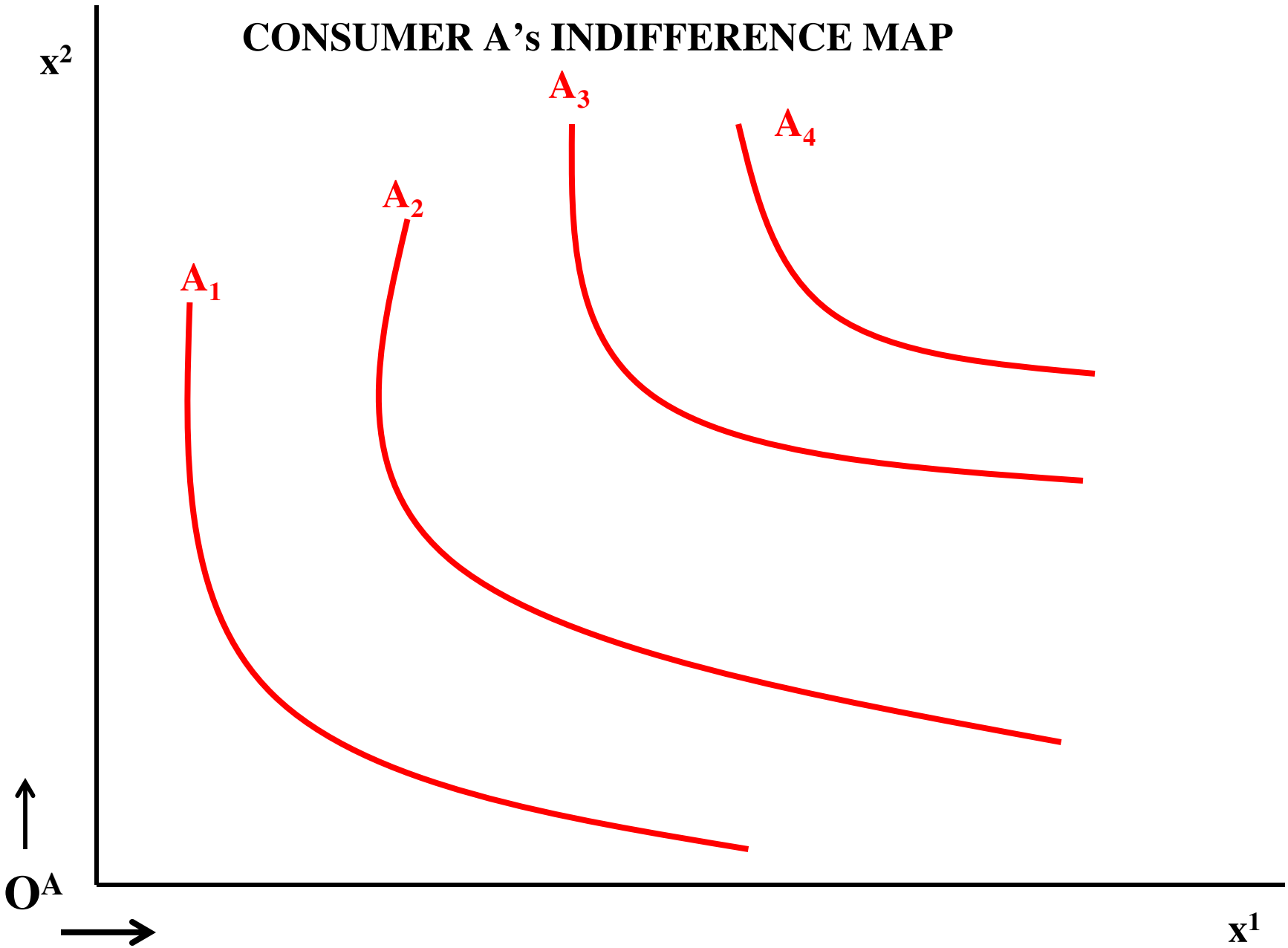
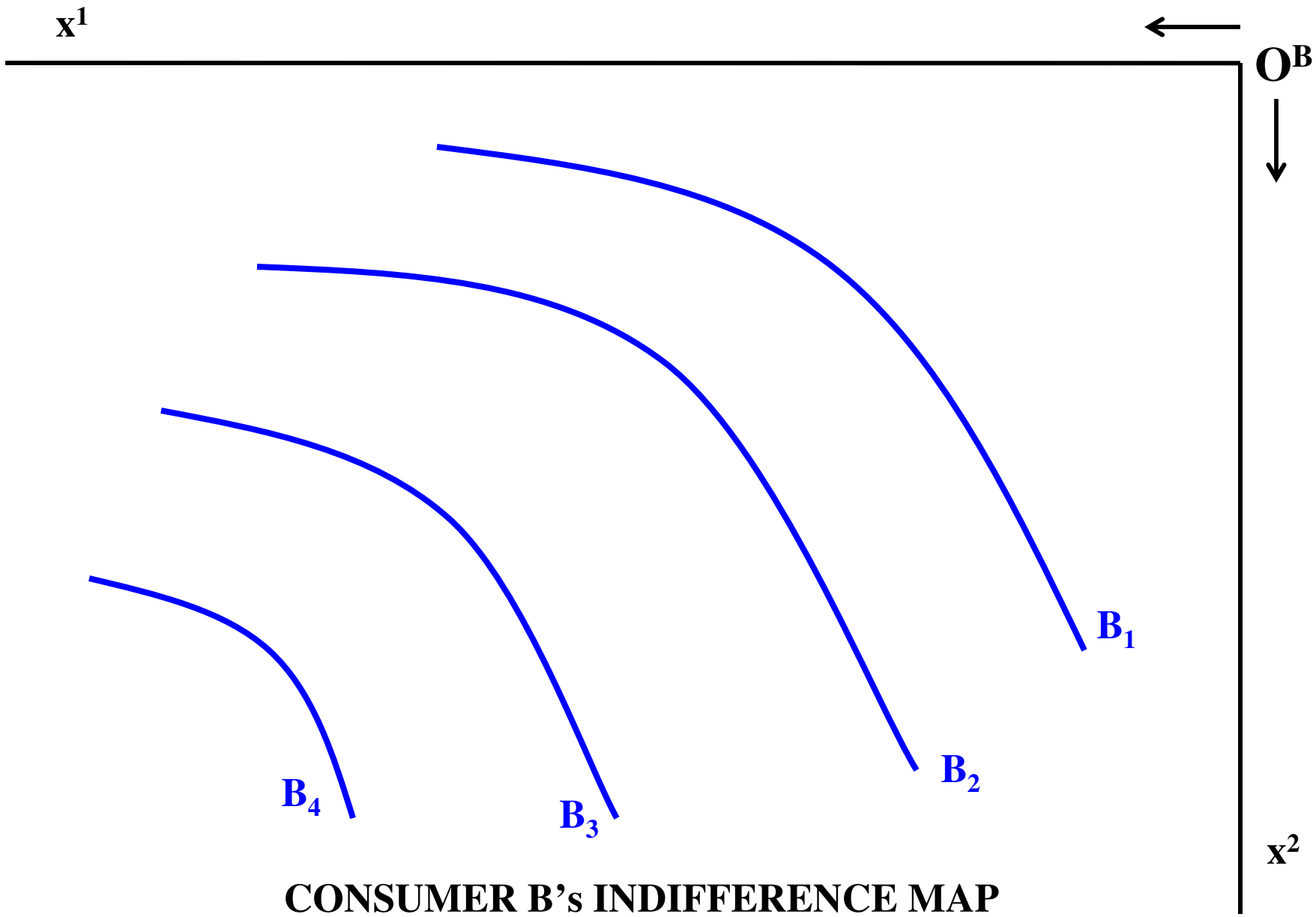
AE 503

EFFICIENCY IN EXCHANGE

Professor Ian Sheldon


CONSUMER A's INDIFFERENCE MAP
x2
A3
A4
A2
A1
OA
x1



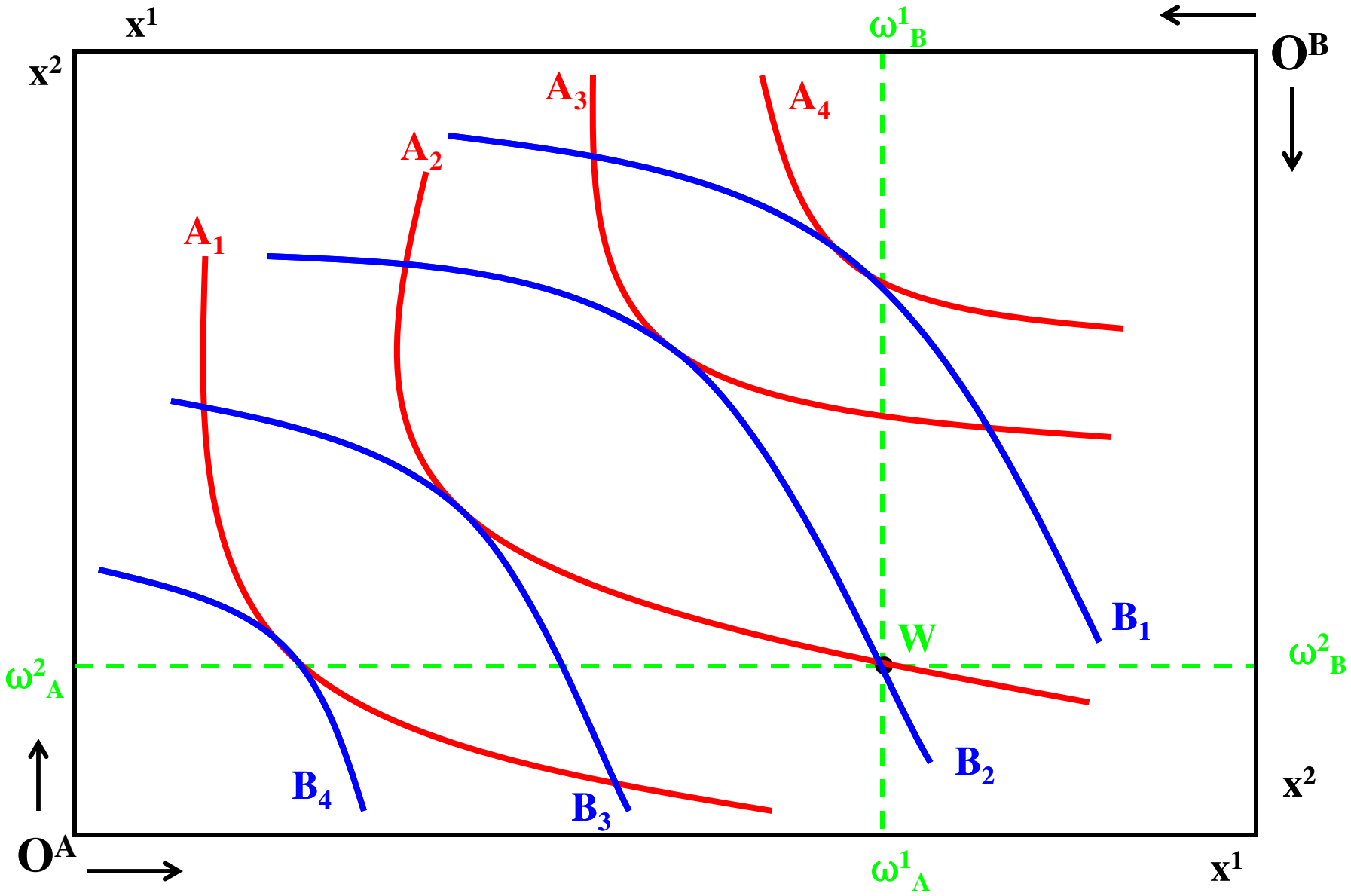
CONSUMER B's INDIFFERENCE MAP

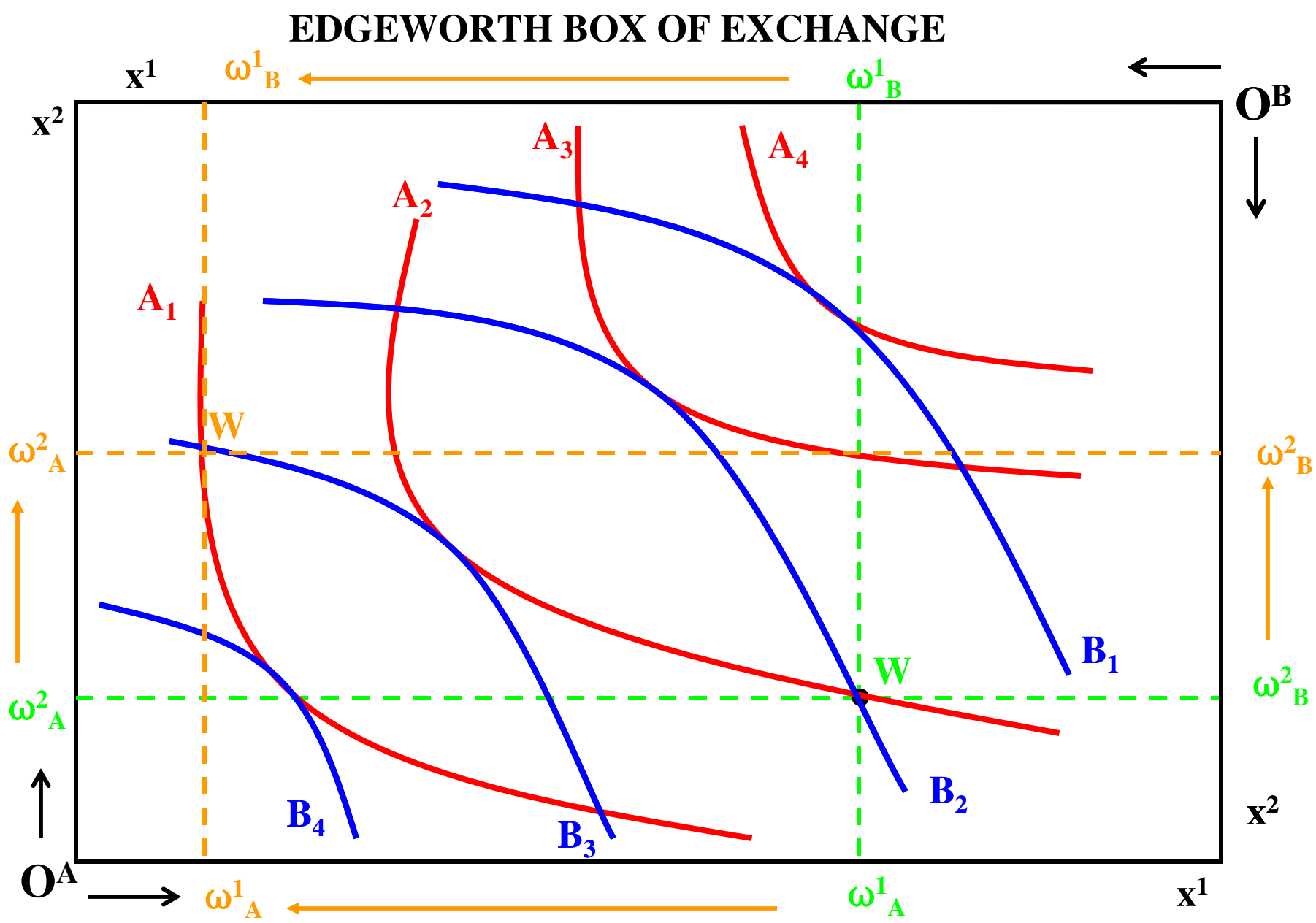
- **Take consumer B's indifference map and place it over consumer A's to form the Edgeworth Box:**

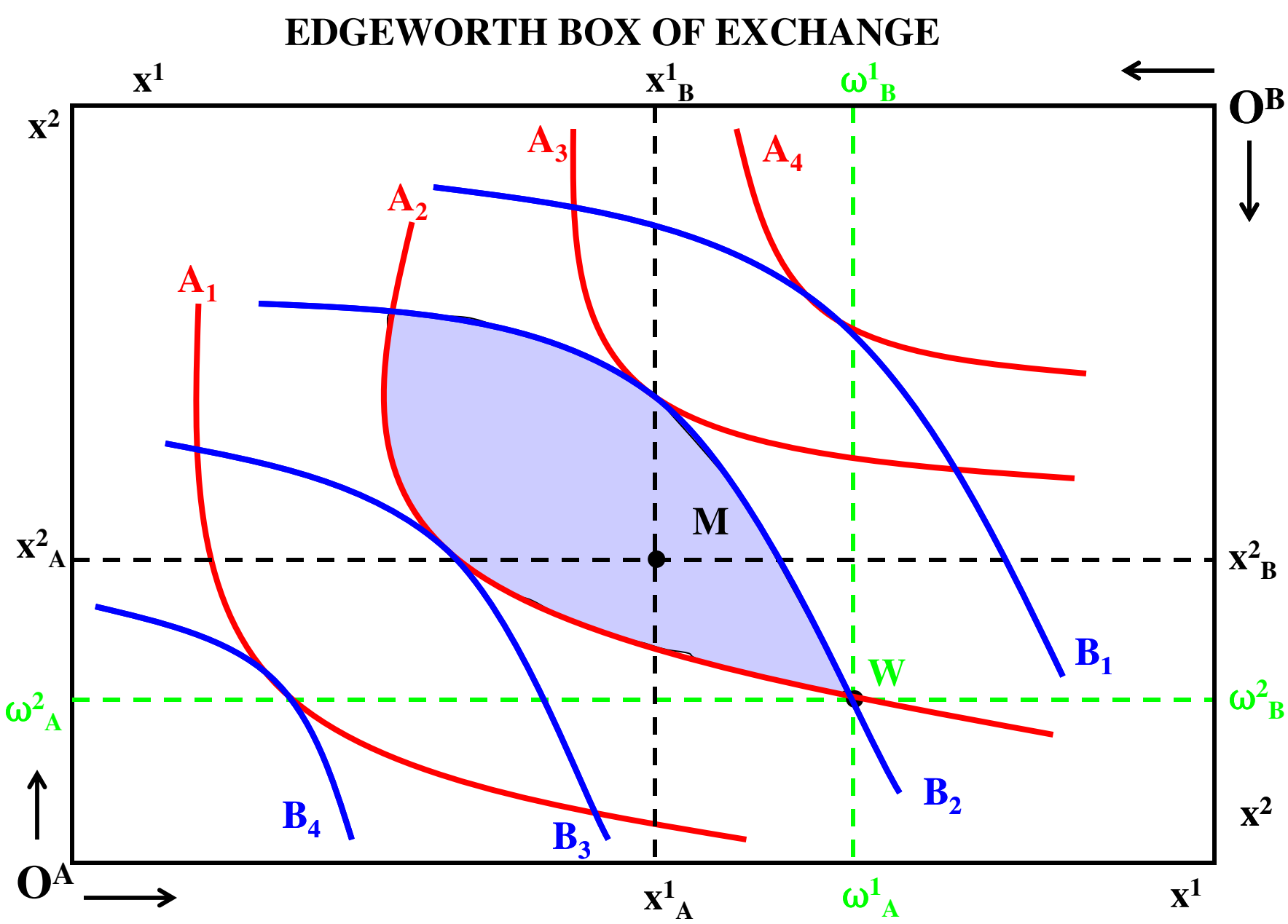
  - ☞ **A's origin will be in the bottom left corner**

  - ☞ **B's origin will be in the top right corner**

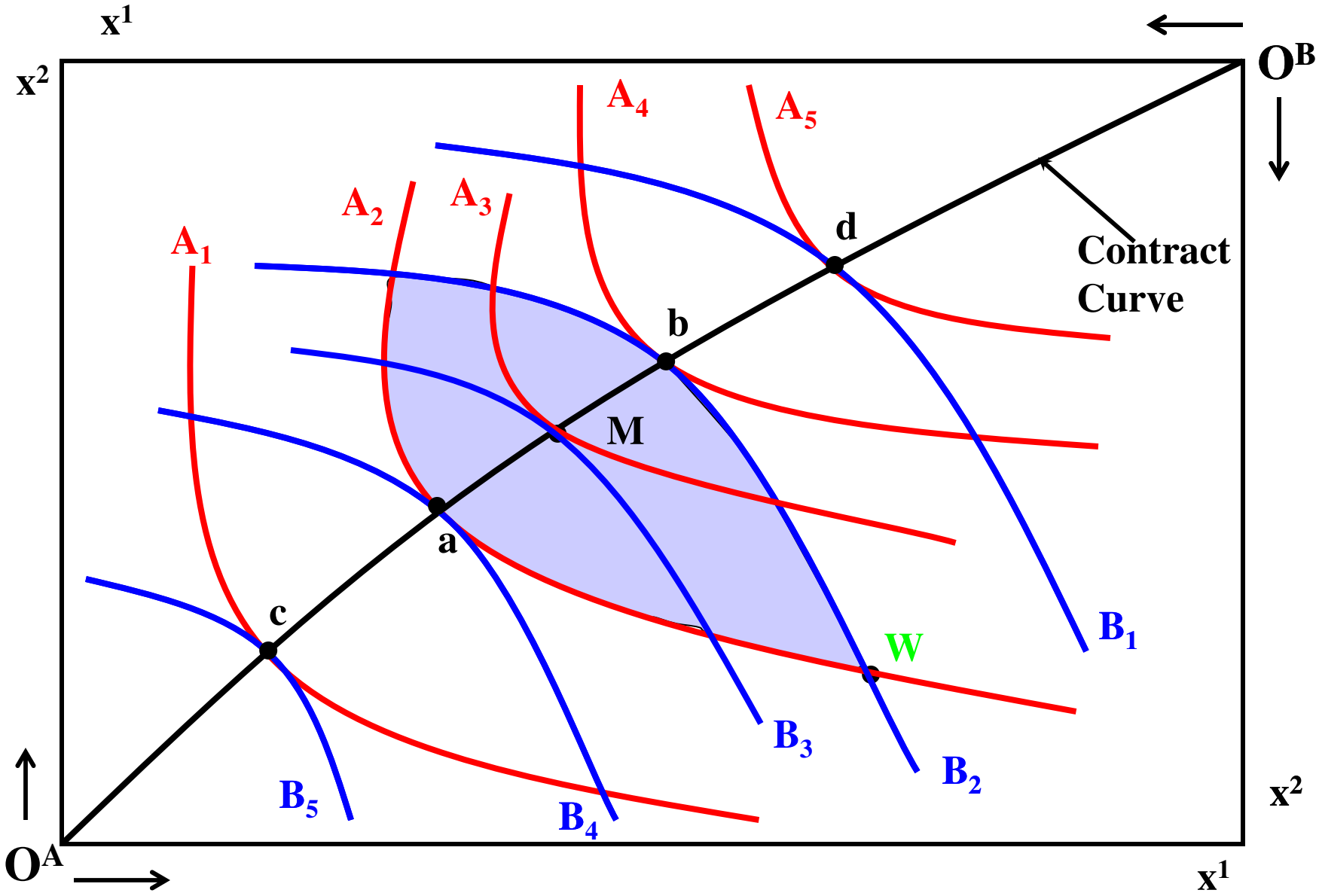
EDGEWORTH BOX OF EXCHANGE




EDGEWORTH BOX OF EXCHANGE
x1
ω1B
ω1B
OB
x2
A3
A4
A2
A1
W
ω2A
ω2B
ω2A
ω2B
W
B1
B2
B4
B3
x2
OA
ω1A
ω1A
x1


EDGEWORTH BOX OF EXCHANGE
x1
x1B
ω1B
OB
x2
A3
A4
A2
A1
M
x2A
x2B
B1
W
ω2A
ω2B
B2
B4
B3
x2
OA
x1A
ω1A
x1

PARETO EFFICIENT ALLOCATIONS



PARETO IMPROVEMENTS

Movements from the endowment point W to any point in the shaded area  **are *Pareto improvements***

☞ **either both consumers are made better off, or one is made better off, the other being no worse off**

PARETO EFFICIENCY

Points a, b, and M are all *Pareto efficient*

☞ **at these points, there is no way of making one consumer better off, without making the other consumer worse off**

- **The relevant condition for Pareto efficiency is that consumer A's indifference curve is *tangent* to consumer B's indifference curve:**

$$MRS^{A}_{1,2} = MRS^{B}_{1,2}$$

- **This condition is met at points a, b, and M, and all other points on the *contract curve***

☞ **The contract curve joins up all Pareto efficient points in the Edgeworth Box, however, relative to the endowment point, W, the relevant portion lies between points a and b**